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ABSTRACT

This study attempted to determine the influence of Hindu epistemology on Ranganathan's Colon Classification. Only the epistemological schools of Hindu philosophy and the Idea Plane element of Colon Classification were included. A literature search revealed that, although there is significant literature on each side of the problem, no bridges exist between the literatures. Using a comparative, non-empirical method, the study established epitomes, or summaries of both Hindu epistemology and the Idea Plane. These were compared and contrasted to determine the influence of the former on the latter. It was observed that evidence of the influence of Hindu epistemology is present in some aspects of the Idea Plane and absent in others. Components found to be influenced were: (1) the theory behind the Idea Plane; and (2) the theory of work in the Idea Plane. Those not influenced were the canons for work in the Idea Plane. A bibliography of sources on Hindu epistemology and on the Idea Plane is attached. (Author/KP)

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THE INFLUENCE OF HINDU EPISTEMOLOGY ON
RANGANATHAN'S COLON CLASSIFICATION

by

Bradley Gerald Maurer

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ABSTRACT

This study investigates the influence of Hindu epistemology on the Idea Plane element in Ranganathan's Colon Classification. A detailed survey of the relevant literatures revealed both the need and the feasibility of such a study.

A comparative, non-empirical method was employed to generate a critical narrative, based on the literature, in which epitomes of both Hindu epistemology and the Idea Plane were established and compared.

On the basis of the evidence, it was concluded that only specific components of the Idea Plane, not its entirety, have been influenced by Hindu epistemology.

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Chapter 1

THE PROBLEM

Introduction to the Problem

Among librarians and information scientists, Dr. S. R. Ranganathan stands out as a prolific writer and unique thinker. Certainly he ranks with Jesse H. Shera, high in the field of librarianship. His profound writings include deep theoretical insights into many facets of librarianship, including classification, cataloging, book selection, reference and information theory, and library education.

Unique among classification schemes is his Colon Classification. Dr. Ranganathan separates work in that scheme into three planes: Idea, Verbal, and Notational. The Idea Plane represents the mind, or epistemological element of information, while the Verbal and Notational planes represent language and the precision of language expression respectively, or the physical means of communicating the abstract information.¹

Dr. Ranganathan is both a native of India and a philosopher. It is therefore appropriate to investigate the impact of Hindu epistemology on his classification ideas. The major contribution of this study is in the field of library classification, where its

¹ S. R. Ranganathan, Prolegomena to Library Classification (New York: Asia Publishing House, 1967), p. 327.

findings will be useful primarily to those interested in Ranganathan, the Colon Classification, and the epistemological foundations of knowledge classification.

Statement of the Problem

Dr. Ranganathan is a Hindu by nationality, with a distinctly Eastern view of library classification. How does Hindu epistemology influence Ranganathan's Colon Classification?

Delineations of the Problem

The study attempts only to evaluate the impact of Hindu epistemology on the Idea Plane element of Ranganathan's Colon Classification. It is, therefore, limited to two things: (1) the Nyaya-Vaisesika, Shankhya-Yoga, and Purva-Mimamsa schools, which constitute the epistemological dimension of Hindu philosophy, and (2) the Idea Plane element of the Colon Classification itself.

Delimitations of the Problem

The popular religious beliefs, the theistic, and the ethical schools of Hinduism do not fall within the locus of inquiry. No consideration will, therefore, be given to the Vedic, Buddhist, or Vedanta schools of Hindu philosophy. Also excluded are Ranganathan's ideas on classification outside the Idea Plane element of the Colon system, and his ideas on cataloging, classified or otherwise.

Methodology

A comparative method, non-empirical in nature, was devised for solving the problem. It consisted basically of two things: (1) the construction of epitomes for both Hindu epistemology and the

Idea Plane element, and (2) examination of the latter for evidence of influences by the former. The expositions of the comparison were presented in a critical narrative based on the literature.

Chapter 2

THE LITERATURE SEARCH

Hindu Epistemology

A myriad of excellent monographs are available on the subject of Indian philosophy, most of which contain information on Hindu epistemology. Books dealing exclusively with Hindu epistemology are, on the other hand, extremely rare. Therefore, one must turn to the relevant portions of representative works on the philosophies of India to acquaint himself with the literature of Hindu epistemology.

A standard work which gives a detailed analysis of Hindu epistemology is Rhadakrishnan's two volume work, Indian Philosophy.¹ In discussing the three epistemological schools of Hindu philosophy, Rhadakrishnan centers on the logical realism of Nyaya-Vaisesika and analyzes its various knowledge theories in great detail. Shorter sections deal with the knowledge theory of Sankhya-Yoga and Purva-Mimamsa, and in these sections, the reader must take care to separate the epistemological elements of these two schools from certain ethical and theistic influences also described.

M. Hiriyana published an excellent work on Hindu philosophy in 1958. This is an authoritative, well-documented source. Hiriyana approaches Hindu philosophy from an historical perspective and has

¹ Rhadakrishnan, Indian Philosophy (London: George Allen and Unwin, 1966).

written a separate chapter on each of the epistemological schools under the section entitled "Age of the Systems." He compares and contrasts the knowledge theories of the three schools, with special attention to the concept of logical realism. As a unit, these three chapters provide a scholarly, intelligent analysis of Hindu epistemology.¹

An earlier work by Hiriyana is less detailed and more introductory.² Published in 1956, it serves as a forerunner to the 1958 work, and prepares the novice for the more scholarly analysis by giving him a concise, yet intelligent, overview of Hindu philosophy. Again, three separate chapters discuss each of the schools of Hindu epistemology, but here the emphasis is on introduction to the essentials rather than scholarly comparison and contrast. A clear understanding of the essentials of Hindu epistemology is available in the chapters on Nyaya-Vaisesika, Shankhya-Yoga, and Purva-Mimamsa in this work, and the corresponding chapters in the 1958 analysis.

Another book, published by Jadunath Sinha of Meerut College, India, in 1931, provides a more specific introduction to Hindu epistemology itself.³ Although the title gives the mistaken impression that the work is a general survey of Indian philosophy,

¹ M. Hiriyana, Outlines of Indian Philosophy (London: George Allen and Unwin, 1958), pp. 225-335.

² M. Hiriyana, The Essentials of Indian Philosophy (London: George Allen and Unwin, 1956).

³ Jadunath Sinha, Introduction to Indian Philosophy (Agra: Lakshmi Narain Agarwal Educational Publisher, 1949).

the book is in reality an exposition on the essential elements of Hindu epistemology. Fully one third of the book is devoted to Nyaya-Vaisesika philosophy, while a smaller, yet significant, portion deals with Purva-Mimamsa. The Sankya-Yoga school is not discussed in a separate section, but adequate reference is made to it in the chapters on the other two epistemological schools. Even the small section of the book dealing with materialistic philosophy has epistemological overtones.

An outstanding text has been written by Chandradhar Sharma, head of the Department of Postgraduate Studies at the University of Jabalpur.¹ This book is a critical survey of Indian philosophy, and includes material on both the epistemological and the ethical schools. Although the book's emphasis is on ethics, the chapters on epistemology must not be overlooked. Each chapter is subdivided into sections on each of the basic epistemological elements of the school being discussed. The chapters on the epistemological schools thus lay an adequate foundation for speculation on the creation of a model of Hindu epistemology. The book also contains an excellent bibliography of sources on Hindu philosophy, with a section of sources specifically on the epistemological schools. A glossary of technical terms used in Hindu philosophy, including epistemology, is another useful aspect of the book.

A milestone in the literature is Heinrich Zimmer's lengthy work on the Philosophies of India. The work contains a well-footnoted

¹ Chandradhar Sharma, Indian Philosophy: A Critical Survey (London: Barnes and Noble, 1962).

and concise appendix which deals specifically with the knowledge systems of Hindu philosophy.¹ It provides both a nutshell analysis and an in context viewpoint of Hindu epistemology in Indian philosophy, and serves as a starting point. A full bibliography is contained at the end of the book.

Relatively few journal articles exist on Hindu epistemology. The journal literature on Hinduism is primarily concerned with Hinduism as a religion, not with its philosophical foundations. One article does exist, however, which provides an adequate survey of logical realism in the Nyaya-Vaisesika school.²

In summary, the literature on Hindu epistemology is both adequate and relevant to the problem of this paper. It contains any number of good analyses of Hindu epistemology, in addition to a number of bibliographies and several key surveys and introductions. The literature does not, however, contain any reference to Indian library philosophy. To assess the extent of relevant literature in that area, it is necessary to turn to the literature of librarianship and information science.

The Idea Plane

The literature on the Idea Plane can be characterized by two general types: monograph literature and periodical literature. The bulk of the monograph literature consists of books by Ranganathan

¹Heinrich Zimmer, Philosophies of India (New York: Pantheon Books, 1953), pp. 605-14.

²C. Harrison, "Hindu Logic," Contemporary Review, 215 (October, 1969), 189-92.

himself, although an excellent Festschrift and several significant books by his associates are also available. The periodical literature consists largely of journal articles by other scholars of classification, with several important articles by Ranganathan.

An outstandingly significant source in the monograph literature is Ranganathan's Prolegomena to Library Classification. Published in 1967 this work contains a specific outline and explanation of canons for work in the Idea Plane.¹ Here one will find the essence of the Idea Plane element, presented in a concise and easily understandable format.

Another monograph, written by Ranganathan in 1965, provides an excellent backup to the above source.² Nearly half the text is devoted to the three planes of work in Colon Classification, the largest of which treats the Idea Plane. In this section, Ranganathan discusses the Idea Plane and its canons in more depth, filling in the framework presented in the Prolegomena. Together, this work and the Prolegomena provide an excellent foundation for characterization of the salient features of the Idea Plane and its theoretical model.

A very simple explanation of the Colon Classification (CC) appears in a chapter by Ranganathan in Sayer's classification manual for librarians. Among other things, this chapter discusses the relationship of the Idea Plane to the Notational Plane and other

¹Ranganathan, Prolegomena, pp. 143-79.

²S. R. Ranganathan, The Colon Classification, Rutgers Series on Systems for the Intellectual Organization of Information, vol. 4 (New Brunswick: Rutgers University Press, 1965).

elements of Colon Classification giving the student a simple perspective of the place of the Idea Plane in CC.¹

Between 1965 and 1967 a very important two-volume Festschrift for Ranganathan was published. The first volume contains key articles by renowned librarians, many of them Oriental. Among the articles, much information is available on research and work in the Idea Plane, as well as its place and function in CC.² The second volume contains separate chronological and classified bibliographies of writings on and by Ranganathan;³ this is an excellent source for locating literature relevant to the problem of this paper.

The papers of the All India Library Conference held at Hyderabad, India in 1953, contain much relevant information on the Idea Plane.⁴ Among important topics discussed are classification, faceting, and theory of the Idea Plane element. Papers by librarians from many Indian libraries are included in the volume, including several key papers by Ranganathan himself.

The papers of another conference, held in 1965 and devoted exclusively to classification research, contain significant

¹ Arthur Maltby, Sayers' Manual of Classification for Librarians (5th ed.; London: Andre Deutsch, 1975), pp. 190-206.

² A.N. Kaula, ed., Library Science Today, Ranganathan Festschrift, vol. 1 (New York: Asia Publishing House, 1965).

³ A. K. Das Gupta, ed., An Essay in Personal Bibliography, Ranganathan Festschrift, vol. 2 (New York: Asia Publishing House, 1967).

⁴ S. R. Ranganathan, ed., Depth Classification and Reference Service and Reference Material, Papers for Discussion at the Tenth All India Library Conference, Hyderabad, 1-4 June 1953 (Delhi: Indian Library Association, 1953).

information by Ranganathan and others on the Idea Plane element, ranging from a general introduction to discussions of a postulational approach to work in the Idea Plane.¹

Another monograph that cannot be overlooked was published in 1964 by an Indian librarian and supporter of CC, A. P. Srivastava. It contains a clear, readable list of postulates, or fundamental principles of universal validity, for the Idea Plane. This source provides a useful background for establishing the salient features of the Idea Plane.²

Many periodical articles by competent scholars of CC exist, which contain at least some relevant information on the Idea Plane. It is best perhaps, to mention only several representative titles which characterize the larger body of available periodical literature, rather than attempting to cover all relevant titles on the subject.

One article is available which analyzes Ranganathan's ideas of classification.³ Although it tries to compress all of his classification theory into a brief synthetic analysis, some worthwhile suggestions emerge about the three planes of CC.

¹Paul Atherton, ed., Classification Research, Proceedings of the Second International Study Conference (Copenhagen: Munksgaard, 1965).

²Anand P. Srivastava, Theory of Knowledge Classification in Libraries (New Delhi: Lakshmi Book Store, 1964), pp. 120-23.

³P. A. Atherton, "Ranganathan's Classification Ideas: An Analytico-Synthetic Discussion," Library Resources and Technical Services, 9 (Fall, 1965), 463-73.

C. D. Sharma wrote a valuable article devoted solely to identifying the salient features of CC.¹ This brief article is a useful means for determining the essence and theoretical model of the Idea Plane element, as well as a guide to essential characteristics of other elements in CC.

A good introduction to CC and its three planes exists in one of the older issues of the Library Association Record in which D. J. Foskett gives a brief outline of CC and its basic ideas, and attempts to identify some of its basic functions.²

Umesh Datta Sharma, an Indian librarian and information scientist, has been very interested in a postulational approach to CC. In a 1961 article published in Indian Librarian, he explores the possibility of identifying the homogeneous components of the subject of a document to be classified, and of arranging them in a correspondingly homogeneous sequence of symbols which constitute the class number. This process is to be carried out on the Idea, Verbal, and Notational planes. The Idea Plane is identified as the theoretical background and structure of the classification scheme, and a set of appropriate postulates (fundamental principles) is proposed.³

Ranganathan, himself, has condoned a postulational approach to library classification. In 1958 he wrote an article on

¹C. D. Sharma, "Salient Features of the Colon Classification," Herald of Library Science, 2 (April, 1963), 81-86.

²D. J. Foskett, "The Colon Classification," Library Association Record, 52 (December, 1950), 450-55.

³Umesh Datta Sharma, "Postulational Approach," Indian Librarian, 16 (September, 1961), 99-105.

the postulational approach to faceted schemes,¹ followed by a 1960 proposal for a similar approach to depth (total facet) classification.² The 1958 article discusses the three planes of work in CC, and rules are given for work in each plane, including the Idea Plane. The salient principles of the Idea Plane are thus established therein by the creator of CC himself. The 1960 article gives an even more definite picture of the postulates of the Idea Plane, their applications, and the methodology of the postulational approach on which the practical work of depth classification can be based. The three foregoing examples of the literature constitute another vital key to identifying the basic features and theoretical model of the Idea Plane element.

An interesting article by Ranganathan was published in Annals of Library Science in 1960. In it, Ranganathan discusses the necessity for standardization of classification and the inherent difficulties encountered in attempting to standardize human knowledge. The difficulties which knowledge classification presents in the Idea, Verbal, and Notational planes of CC are discussed.³

In summary, the literature on the Idea Plane element, like that on Hindu epistemology, is both adequate and relevant to the problem of this paper. It contains many sources, both in monograph

¹S. R. Ranganathan, "Postulational Approach to Faceted Classification," Annals of Library Science, 5 (June, 1958), 33-51.

²S. R. Ranganathan, "Postulational Approach to Depth Classification," Annals of Library Science, 7 (September, 1960), 77-89.

³S. R. Ranganathan, "Standards for Classification," Annals of Library Science, 7 (September, 1960), 90-96.

and periodical form, which contain not only clear and concise evaluations of the Idea Plane, but also valid attempts to express its salient features. The literature does not, however, contain any reference to the influence of Hindu epistemology upon the Idea Plane element itself.

State of the Problem in the Literature

From the evidence uncovered by the foregoing literature search, three things may be established concerning the state of the problem of this paper in the literature. First, there is significant literature on each side of the problem. Second, no bridges exist between the two literatures. No study has been done to date which attempts to evaluate the influence of Hindu epistemology on the Idea Plane element in CC. Third, the problem is therefore empirically as well as logically defensible, and the way is open to research.

Chapter 3

HINDU EPISTEMOLOGY

Three epistemological schools of Hindu philosophy are (1) Nyaya-Vaisesika (logic), (2) Shankhya Yoga (reflection), and (3) Purva-Mimamsa (perception). They deal with the origin and perception of knowledge and its place in the sphere of reality.

Nyaya-Vaisesika Epistemology

Nyaya-Vaisesika is primarily concerned with two spheres or worlds of reality. It acknowledges both the physical, or concrete universe and the mental, or abstract universe as extremely valid and real. The outside world is known through the mind, which is assisted in its perception by the organs of sensual perception and the organ of thought translation. The former are, of course, sight, smell, hearing, taste, and touch. The latter is called the manas, an intangible organ involved in knowledge perception and uniquely oriental in concept, which shall be described in greater detail below. The physical universe is naturally outside of a person's mind, while the mental, or abstract world exists within all minds. The outside world, though necessarily known through the mind, is in no way dependent upon it. It is important to note that in Nyaya-Vaisesika the concrete and the abstract are both real worlds: the former typified by nature and its myriad

creations, the latter by the mind with its thoughts and dreams.¹

The physical universe, or natural world consists of three basic elements. These are (1) matter, (2) time, and (3) space. They are regarded as substantive entities in the nature world, matter being both finite and tangible while time and space are finite but intangible substances.

In nature, matter is further composed of four atomic elements and one intangible element. The atomic elements are air, fire, water, and earth. These elements are said to be perceivable to the respective senses of touch, sight, taste, and smell. The intangible element is space, which is perceivable by the sense of hearing. Matter, therefore, has five component elements, each of which is perceived and reported to the manas by one particular sense organ.²

From the atomic constituents of matter are composed the myriad objects of tangible substance, such as living bodies, tables, trees, mountains, and streams. The intangible element of space is the all-pervasive element in which all these objects reside.

Time, like space, is intangible and all-pervasive. While not an element as such, it provides a continuum by which the relative terms of existence of atomic objects in space are aligned in proper perspective.

The entire scheme of existence in the material world is rationalized on the basis of the above theory.³ In all-pervasive

¹Hiriyana, Essentials, pp. 85-86.

²Ibid., p. 24.

³Ibid., p. 89.

space, material atoms combine to form material wholes. Two single, or primary atoms of the same element are conjoined to form an inherent binary. Three such binaries produce a cohesive, tangible triad. Different types of triads combine to create objects, including organic bodies. So all objects in the physical universe are created, and this is their essential nature. Creation is a spontaneous process of nature.

Time regulates the existence of all created objects. It is divided into cycular segments during which atomic integration and disintegration follow one another. At the end of a given time cycle, material objects are resolved back into triads, binaries, and finally, their original atoms, which remain isolated from one another until the next cycle begins.

An understanding of the abstract universe is just as vital to the Nyaya-Vaisesikan epistemologist as is knowledge of the physical one. It is in the mind that ideas originate. The subject matter of logic is thought, and thought is of the mind, not the physical universe.¹

The mind, frequently referred to as the "self" in Hindu terminology, differs from the material universe in one important aspect: it may possess knowledge, which atoms and elements, being insensate, may never do. In fact, the self is the basis of mentation, knowledge, and perception.

While knowledge does arise within the mind, or self, Nyaya-Vaisesika maintains that certain conditions must be fulfilled.

¹Ibid., p. 90.

before this may occur.

Knowledge, while inherent within the self, cannot reveal itself without the aid of a certain internal organ of perception, the manas, and the aid of the external sense organs.¹ The manas, as mentioned above, is the instrument of knowledge within the self, and it is as inert within the mind as any other sense organ is in the body. Cooperation of the manas is essential and a necessary condition to all knowledge.²

The manas is always in operative contact with the inner self, the mind, effecting communication between it and the senses.³ When a sense organ, such as the ear or eye, contacts an appropriate object existing in the outer world, it sends an impression of the object to the manas. Since, according to Nyaya-Vaisesika doctrine, the mind cannot directly experience or communicate with the concrete world, being itself abstract in essence, it requires an organ which will translate material impressions into ideas and vice-versa. The manas fills this role. When the manas forwards a translated impression from the sense organs to the mind in the form of an idea, the mind becomes alerted and knowledge in one of its forms springs up in the mind. A related emotion and its subsequent reaction are automatically triggered. Although the actual location of this vague organ of perception, the manas, is not pinpointed within the body by Nyaya-Vaisesika knowledge theory, it is nevertheless recognized as that which allows the outer world to be

¹ Ibid., p. 91. ² Hiriyana, Outlines, p. 230.

³ Hiriyana, Essentials, p. 91.

known by the mind.

Nyaya-Vaisesika recognizes four right or true forms of knowledge as it arises within the mind. The first is perception, which is defined as knowledge which arises from indirect contact with a sensed object, through the manas. Second is inference, which is that knowledge which follows perception, giving fuller mental analysis and understanding to the idea. Third is comparison, further knowledge which is brought to bear on the idea when the mind compares the object in question to another object already well-known. The final form is called verbal testimony, where the mind seeks the instructive assertion of the idea from a reliable person. Any or all of these forms of knowledge may arise whenever the mind responds to an idea forwarded by the manas.¹ Thus, although proper stimulus is required from the respective organs, knowledge itself is inherent and arises within the mind only, which analyzes and amplifies knowledge as well.

Nyaya-Vaisesika is quick to point out, however, that not all knowledge arising in this manner is valid. For knowledge to be accurate, it must truly represent the object perceived, as possessing the characteristics which it really has.²

This brings up the Corresponding Theory of Truth, which asserts that only knowledge which is faithful to its object is true knowledge.³ Erroneous knowledge is that knowledge which contains one or more

¹Theos Bernard, Hindu Philosophy (New York: Philosophical Library, 1947), p. 24.

²Hiriyana, Essentials, p. 97.

³Ibid.

aspects not actually present in the object perceived. Error implies ignorance of the true nature of an object, and ignorance negates the validity of knowledge.

For example, if a rope is perceived as a rope, and therefore known as a rope, true knowledge of the rope has arisen. However, if the rope is mistaken for a snake, false knowledge resulting in distorted understanding has occurred.

The problem of ascertaining the validity of knowledge is dealt with in Nyaya-Vaisesika by a very practical method. Hindu philosophy generally accepts two theories on the validity of knowledge. Either knowledge is self-valid and always presumed to be right, or knowledge is not self-valid and requires an additional test to establish its truth. The former is a subjective theory, the latter an empirical one.

Nyaya-Vaisesika holds to the empirical theory. Whenever knowledge arises within the mind in any or all its forms, it must be tested. The test is simple. If the object works, it has been perceived truly. The proof of the pudding is in its eating.¹

If one perceives water, the knowledge that it is really water is confirmed by trying to drink it. If it quenches thirst, then the knowledge is confirmed. Similarly, the mind instructs the body to test fire to see if it burns, ice to see if it melts, or a nail to see if it penetrates wood when driven by a hammer. If the object demonstrates known attributes, then the knowledge of it is accepted by the mind. Otherwise, the knowledge may be dismissed as

¹Hiriyana, Outlines, p. 253.

error, and the true nature of the object sought.¹

In summary, Nyaya-Vaisesika accepts both the concrete and the abstract worlds of reality. The myriad objects of the physical world are known by the mind with the aid of sensual and perceptive organs. Knowledge is inherent to the mind, and when it arises it does so in four right forms (no other forms of knowledge are accepted by Nyaya-Vaisesika). Finally, the validity of knowledge must be ascertained by a practical test.

Shankhya-Yoga Epistemology

Like Nyaya-Vaisesika, Shankhya-Yoga accepts both matter and mind as ultimately real. The main difference is that the Shankhya-Yoga school does not acknowledge the two worlds as separate and independent entities, but rather as interdependent, co-existing realities.² Both the concrete and the physical world are necessary, furthermore, for the realization of knowledge. The physical world exists as the first prerequisite condition of knowledge, and the world of abstract thought is the second condition that must come into play before knowledge arises.

The material world, rather than originating in a plurality of simple, atomic substances (as in Nyaya-Vaisesika), derives from a single complex and all-pervasive substance. While the Nyaya-Vaisesikan physical universe is based on a theory of origin, that of Shankhya-Yoga is clearly based on an evolutionary one. Rather than looking upon physical objects as products of original creation, Shankhya-Yoga views them as results of transformation within the primeval substance of

¹Hiriyana, Essentials, p. 98.

²Ibid., p. 107.

being, which may be termed the First Cause.

The First Cause has three constituent factors. The first represents all that is pure and fine, the second all that is active, and the third that which is solid and offers resistance. From these essential categories of being evolve all types of material objects.¹

Time is measured in cycles, which represent periods in the evolutionary process. Every period of evolution is followed by one of dissolution, during which all matter in the physical universe becomes latent, or rests. One cycle follows another in the eternal process of progress and decay.

In this ongoing process, the first thing that always emerges from the material First Cause is the force of intellect, which in turn gives rise to the force of ego, or individuality. It is important to realize that the Hindus regard both intellect and individuality in two ways: first as a physical force, like energy, and second as a cognitive perception, something which exists within the mind. The former is what emerges from the First Cause.

From the force of ego evolve two subservient groups of forces. The first contains the essences of the sensual and perceptive organs, including the manas. The second group consists of the physical elements, both subtle (space, air) and gross (earth, fire, water). Together, these comprise the basic components of life: the elemental environment and the forces of intelligence by which the environment may be assessed and measured.

¹ Hiriyana, Outlines, p. 270.

Evolution from the First Cause to the basic conditions of existence is called primary evolution. Secondary evolution takes place following primary evolution. It is during this phase that the myriad common objects of the physical universe are generated, such as trees, mountains, and living bodies. Primary evolution establishes the framework of the physical universe, while secondary evolution populates it with material things.¹

The second condition prerequisite to the origin of knowledge is sentience: the sphere of abstract thought. Sentience is defined as pure thought, and it exists eternal, unchanging, and omnipresent.² It fills the physical universe and dwells in all living minds. The physical universe, being insensate, requires a sentient co-principal by which it may be perceived, interpreted, and experienced.³ The thing that prevents Shankhya-Yoga from becoming a simple philosophy of nature is its equal emphasis on the abstract universe of thought.

According to Shankhya-Yoga epistemology, no knowledge or satisfactory explanation of experience is possible without the coexistent reality of both the physical universe and the universe of thought. Knowledge can arise in the mind only when certain conditions are met. Sufficient primary and secondary evolution must create the necessary forces, organs, and objects, and the mind of a living being must then be enlightened by sentience. Once these

¹ Hiriyana, Essentials, pp. 110-12.

² Chandradhar Sharma, Indian Philosophy: A Critical Survey (London: Barnes and Noble, 1962), p. 143.

³ Hiriyana, Outlines, p. 279.

conditions are met, knowledge may arise in the mind, aided of course in perception by the senses and the manas.

Shankhya-Yoga accepts three right forms in which knowledge may arise.¹ These are perception, inference, and verbal testimony. Their definitions were given in the discussion of Nyaya-Vaisesika.

The Shankhya-Yoga doctrine also recognizes the problem of knowledge validity. It is possible for knowledge arising in the mind to be logically and syllogistically valid but still be illusion. To ascertain the truth of knowledge, this school adopts an opposite method than that employed by Nyaya-Vaisesika. The test of truth is subjective rather than empirical in nature, and is primarily comparative. If the mind perceives an object as a snake, the image of the object is compared mentally to the form catalogued as "snake" from previous mental experience, to insure that the object perceived is in reality a snake, not a rope or a cable. This process takes place in the mind without empirical use of the senses. Valid knowledge is true knowledge, and no illusion, if verified by this method.²

Shankhya-Yoga, then, accepts two worlds of reality: the physical and abstract universes. Both worlds are interdependent in that for knowledge to arise, both must fulfill certain conditions. Knowledge may arise in three right forms, and valid knowledge must still be subjectively tested to insure against the possibility of

¹ Nagaraja Rao, Essays in Indian Philosophy and Religion (Bombay: Lalvani Pub. House, 1971), p. 17.

² P. T. Raju, The Philosophical Traditions of India (London: Allen and Unwin, 1971), pp. 156-58.

illusion.

Purva-Mimamsa Epistemology

Since Purva-Mimamsa doctrine accepts epistemological elements quite similar to those of Nyaya-Vaisesika, a brief overview of its tenets, noting similarities and some differences, will suffice.

Like Nyaya-Vaisesika, Purva-Mimamsa is a dualistic philosophy, accepting the reality of both the physical universe and the abstract world of mind. The material universe is essentially that of Nyaya-Vaisesika, but greatly simplified. It is composed of a plurality of atomic particles. Its ultimate source is both finite and tangible, and its basic constituents nothing more than atoms and particles no smaller than may be perceived by the sense organs. There are only four basic elements, all of which are tangible. These are earth, water, fire, and air. Since, according to Purva-Mimamsa, it is futile to analyze the source of matter beyond this point, these are the most basic elements from which objects are composed.¹

In terms of the abstract world, Purva-Mimamsa accepts the Nyaya-Vaisesikan view of sensual and perceptive organs which aid the mind in knowledge-realization. It further accepts all four right forms of knowledge: perception, inference, comparison, and verbal testimony.² Purva-Mimamsa further implies that the mind is both the subject and object of knowledge. When knowledge arises

¹Hiriyana, Essentials, pp. 130-32.

²Jadunath Sinha, Introduction to Indian Philosophy (Agra: Lakshmi, 1949), pp. 197-98.

in the mind, it reveals simultaneously not only the object of the knowledge, but also its subject.¹ The primary subject of knowledge is, of course, the object from the outer world revealed by the senses. However, the mind knows not only the thing perceived, but also that it is itself the knower of the thing. Therefore, the mind becomes the secondary subject of knowledge in that it knows something, and the object of knowledge in that it becomes known by itself. For instance, if the mind perceives a rope, the rope becomes the primary subject of knowledge. The mind, as the knower of the rope, becomes the secondary subject of knowledge. Simultaneously, the mind realizes its own reality as the knower of the rope, hence becoming itself an object of knowledge. It is at once both subject and object: subject insofar as it knows something, and object insofar as it is known by itself. According to Nyaya-Vaisesika, this is impossible since self knowledge must always follow perception and cannot occur simultaneously with it.

A second difference between Nyaya-Vaisesika and Purva-Mimamsa is that the former maintains that knowledge is an inherent quality of the mind, while the latter suggests it is an inherent activity of the mind. Knowledge implies an actual thought process rather than passive introspection. Instead of triggering a cognitive flash of knowledge in the mind, followed by self-perception, the manas stimulates a simultaneous outer and inner awareness, with the result that the mind experiences both itself and the outer world.

¹Sharma, Indian Philosophy, p. 212.

In terms of the validity of knowledge, Purva-Mimamsa agrees with the Nyaya-Vaisesikan view. The question of validity arises after knowledge arises in the mind, and the test of true knowledge is in its fruitful or unfruitful activity. Perception, inference, comparison, and verbal testimony are accepted here, as in Nyaya-Vaisesika, as the four right forms in which knowledge may occur.¹

An Epitome of Hindu Epistemology

The systems of Hindu epistemology, though contradictory on certain issues, represent complementary projections of truth on the various planes of conscious knowledge.² Although Shankhya-Yoga differs from the other two schools on the question of testing knowledge validity, it accepts fundamentally the same right forms in which knowledge may arise. Although Purva-Mimamsa disagrees with Nyaya-Vaisesika on the issue of self-awareness in knowledge, it agrees on almost every other point. There are basic similarities between the three schools in terms of their general epistemological outlook. On the basis of these similarities as discussed in this chapter, an epitome of Hindu epistemology may be generalized. The observations of this chapter disclose the following basic traits of Hindu epistemology.

1. Hindu epistemology maintains that all knowledge originates in the mind.

¹Sharma, pp. 203-206.

²Heinrich Zimmer, Philosophies of India (New York: Pantheon Books, 1953), p. 605.

2. There are certain prerequisite conditions which must be met before right knowledge occurs.

3. There are certain forms in which right knowledge arises: perception, inference, comparison, and verbal testimony.

4. The subjects and objects of knowledge include the physical world and its myriad material objects, and the mind itself.

5. There are two worlds of absolute reality, both of which are involved in the knowledge process. The first is the physical universe, with its basic elements of earth, air, fire, water, and space. The second is the universe of the mind, which perceives and knows the physical universe with the aid of the sense organs and the manas.

6. The validity of knowledge must be established by either an empirical or a subjective test.

These constitute an epitome, or summary, of Hindu epistemology.

Chapter 4

THE IDEA PLANE

In Colon Classification, there are three basic steps to the classification of library material. These correspond to three planes of work. A cataloger must first classify an item in the Idea Plane, then the Verbal Plane, and finally the Notational Plane. Ranganathan maintains that in the communicative process ideas come first. The mind is the origin of all ideas. Only after ideas arise within the mind may words be formulated to describe them. Therefore, words follow ideas. Precision of words, in which language assigns certain attributes to an idea, comes last. Since classification deals ultimately with organization of human ideas, he argues that it must follow the same basic pattern.

The Idea Plane represents the first step. Since ideas begin in the mind, that is the logical place for classification of ideas to begin also. Here mental analysis of the item to be classified reveals its subject essence, and its essential qualities and characteristics are conceptualized and mentally classified. The second step, the Verbal Plane, describes the ideas thus established in words, using the technical terminology of CC. Each facet is written out in detail. Work in the Notational Plane then assigns a full class number to the item, which symbolizes the now

well-thought-out ideas about the essential nature of the classified item.¹

Since the Idea Plane deals with ideas and their mental classification, it represents the mind and is the epistemological element of CC. It will be the only step in CC discussed herein. It is divided into two parts: (1) canons for work in the Idea Plane, and (2) a theory of work in the Idea Plane itself.

Canons for Work in the Idea Plane

As may be expected, classification in the Idea Plane is not a haphazard affair. There are standards by which catalogers should abide as they classify in the Idea Plane. These are called canons.

The canons are divided into five sets: (1) four canons for characteristics of classification, (2) three canons for succession of characteristics, (3) four canons for array of classes, (4) two canons for chain of classes, and (5) two canons for filiatory sequence of classes. The canons themselves are summarized below.

The canons for characteristics of classification alert the cataloger to the essentials of Idea Plane classification. They are Differentiation, Relevance, Ascertainability, and Permanence. These canons simply state that classification should be diverse enough to include all classes into which entities may be categorized, yet relevant, clear, and permanent to the purpose of the classification.

The canons for succession of characteristics insure an orderly analysis in the cataloger's mind. They are Concomitance, Relevant Succession, and Consistent Succession. These canons simply

¹Ranganathan, Prolegomena, pp. 327-31.

guard against unnecessary duplication of classes, and insure that the succession of classes is both relevant and consistent to the purpose of the classification.

The canons for array of classes state the standards for a logical succession of classes as mental examination of an item proceeds. They are Exhaustiveness, Exclusiveness, Helpful Sequence, and Consistent Sequence. They insure completeness, limit overlap, and maintain an orderly procedure of mental sequence of classes in a manner both helpful and consistent with the purpose of the classification.

The canons for chain of classes guide the cataloger in a logical pattern of analysis as he proceeds down a chain of classes, attempting to categorize the item being classified. The canon of Decreasing Extension insures that analysis proceeds from the most general to the most specific class. The canon of Modulation makes sure that no link in the chain of classes, no specific attribute of the item, is overlooked.

The canons for filiatory (harmonious) sequence are called respectively Subordinate Classes and Coordinate Classes. They merely state that subcategories of a class should be coordinated in the mind of the cataloger under the main class. This upholds the canons for chain of classes and prevents the cataloger from becoming confused or muddled in his analysis of an item by class.¹

Work in the Idea Plane

With an understanding of the canons for work in the Idea Plane,

¹Ibid., pp. 143-79.

a cataloger is ready to classify in the Idea Plane. As stated above, classification of library material in Colon Classification begins in the mind, since it is also there that ideas originate. In fact, Ranganathan maintains that the essence of library classification is the Idea Plane, the verbal and notational aspects existing to aid in its more specific expression in words, and in an appropriate classification number.¹

To begin classification in the Idea Plane, a cataloger places the material to be classified in front of him and examines the title of the work. Focusing on the title, he considers it first in its original form (termed "raw form"), then embellishes it to bring out every aspect of the key words in the title.² Five devices of focus are employed to help the cataloger pinpoint the essential focal ideas of a title. They are the chronological, geographical, subject, alphabetical, and enumerative elements of the title. The chronological device helps form focal ideas in the mind of the cataloger for assessing the degree of chronological information present in the title. Time elements that may be indicated in a title include origins, birth, discovery, initiation or first occurrence of something.

The geographical device aids the cataloger in evaluating the amount of geographical information present in a title. A place or origin or habitation may be indicated in the title of a book, for

¹Ibid, p. 338.

²P. A. Atherton, "Ranganathan's Classification Ideas: An Analytico-Synthetic Discussion," Library Resources and Technical Services, 9 (Fall, 1965), 470-71.

instance.

The subject device assists the cataloger in identifying the subject essence of the title, while the alphabetic and enumerative devices help form focal ideas for determining its alphabetic and numeric placement in the enumerative class sequence of CC.¹

Using these five focal devices, then, the cataloger mentally analyzes and identifies the essentials of the title, and establishes its subject essence and likely placement in the classification scheme.

Continuing to concentrate on these ideas in his mind, the cataloger considers the title further in the light of five basic facets. These are time, space, energy, matter, and personality. They are the five fundamental categories of classification and apply to all classes of subjects.² The purpose of this step is to determine how much of each facet is manifested in the title, and each facet is compared with the title in as many turns, or rounds, as is necessary to insure thorough analysis.

The time facet reveals its manifestation in the form of any time, seasonal, or meteorological ideas present in the title. Manifestations of space in the title are revealed by the presence of geographic, spatial, and population-residence ideas. Energy is manifested by action words, such as verbs, in the title. Matter, the physical essence of all material objects, is manifested by the

¹Ranganathan, Prolegomena, pp. 344-48.

²Derek Langridge, Approach to Classification (London: Clive Bingley, 1966), p. 94.

presence of ideas indicating objects and their qualities, like hard, soft, pliable, or rigid. Personality is ineffable, spiritual, and abstract: the essence of things. Any manifestations in a title not directly attributable to the first four facets are said to be manifestations of this one.¹

Obviously, one who classifies in the Idea Plane must not only become familiar with the canons guiding the work, but also the five focal devices and the five fundamental categories, for these constitute the standards against which all library materials may be mentally analyzed and classified.

Once the above steps are taken, mental classification in the Idea Plane is completed. The cataloger may then consult the CC classification schedules, establish a basic class for the material, and proceed on into work in the Verbal and Notational Planes.

An Epitome of the Idea Plane

The purpose of the Idea Plane in CC is to insure that classification of human knowledge (in the form of books and other library materials) originates in the same place where human knowledge itself originates: the mind. It deals with ideas and endeavors to control specific ones which arise during the classification of library materials. This chapter dealt with the essential elements of the Idea Plane. An epitome, or summary of the Idea Plane now concludes the chapter.

1. The Idea Plane is based on the theory that all ideas originate in the mind.

¹Ranganathan, Prolegomena, pp. 399-401.

2. Certain canons and procedures must be followed before correct classification in the Idea Plane may be said to have taken place. These include: (a) canons for characteristics of classification, succession of characteristics, array and chain of classes, and filiatory sequence, (b) the five devices of focus (chronological, geographical, subject, alphabetical, and enumerative), and (c) the five fundamental categories of classification (time, space, energy, matter, and personality).

3. Analysis and evaluation of an item to be classified must take place in the mind, according to the above procedures, and within the general guidelines set by the above canons, before the actual verbal and notational aspects of classification may take place.

4. The Idea Plane is the essence of library classification, according to Ranganathan.

Chapter 5

COMPARISON AND CONTRAST

Analysis of the foregoing data reveals both similarities and differences between the epitomes of Hindu epistemology and the Idea Plane. There are four clear areas of similarity and several of difference between the two epitomes.

The first area of similarity deals with the basic concept of epistemology: that knowledge and ideas are inherent to the mind and in some way arise there, and no place else. Hindu epistemology maintains that all knowledge originates in the mind. The Idea Plane is based on the theory that all ideas originate in the mind. Both ideas and knowledge deal with thought, mental conception, and cogitation which take place within the mind. Therefore, the two epitomes can be said to agree on the point that abstract thought processes are a quality of the mind.

The second area of similarity is the assertion that certain prerequisite conditions are necessary before respective thought processes may occur. Hindu epistemology states that certain organs of sense and perception must come into play, for example, before knowledge in any of its forms may arise within the mind. The Idea Plane states certain canons and procedures which must be followed if accurate ideas pertaining to the classification of an item are to arise in the mind during work in the Idea Plane. In both epitomes, preconditions to relevant mental conception are mandatory.

The third area of similarity involves an interest in the dualism of the universe: both Hindu epistemology and the Idea Plane accept both matter and mind as distinct spheres of reality. Hindu epistemology is, of course, much more articulate on the point. Its schools go so far as to outline the cosmology and processes involved in the existence of the concrete as well as the abstract universe, but the basic assertion is that both spheres are absolutely real and necessary to the knowledge process. The concrete world is that which is known by the mind, with the aid of certain perceptive and sense organs.

The Idea Plane manifests its interest in the two spheres much more subtly. The manifestation occurs in two places. First, it is present in the concept that the Idea Plane is the basis, or essence, of library classification, while the Verbal and Notational Planes exist simply to aid in its expression. This represents in a sense the polarity between the abstract thought process, typified by the Idea Plane, and the expression of thought through a concrete medium such as words or deeds, typified by verbalization and notation. Both spheres of reality, those of thought and matter, are present in the analysis. Second, both matter and personality are among the five fundamental categories of classification in the Idea Plane. Matter was defined above as the fundamental category dealing with the physical essence of material objects as manifested in the title of a work, while personality dealt with the ineffable, spiritual, abstract essence of things so manifest. Again, the two worlds of matter and mind are represented as real and fundamental considerations in Idea Plane classification.

The fourth area of similarity is that the elements of time and space are a common consideration in both epitomes. In Hindu epistemology, time and space are intangible, all-pervasive components in the physical universe. Space represents the native element in which material objects reside, while time is the force which regulates the term of their existence. In the Idea Plane, time and space are present in both the five devices of focus and the five fundamental categories of classification. In the former, time is represented by the chronological device, while space is represented by the geographical one. The chronological device deals with time elements in a title, while the geographical one deals with places of origin and habitation. The usage of both is similar to the time and space concepts in Hindu epistemology in that they deal with the occupation of space and the span of time. In the five fundamental classification categories, the concepts are almost identical to those just described.

There are also dissimilarities between the two epitomes. No precedent for the canons of work in the Idea Plane is evident in Hindu epistemology. Perhaps they deal with procedures so inherent to librarianship that they have no epistemological basis. Perhaps they are innovations of Ranganathan's own classification theory which were conceived entirely independent of influence by Hindu philosophy. In any event, they bear no evidence of influence by Hindu epistemology. Likewise, the right forms of knowledge, the subjects and objects of knowledge, and the various tests for truth and validity of knowledge, all important aspects of Hindu epistemology, are absent from the Idea Plane epitome.

From the observations of this chapter it is apparent that evidences of the influence of Hindu epistemology are present in some aspects of the Idea Plane, while in other aspects they are not. .

Chapter 6

SUMMARY AND CONCLUSIONS

This study attempted to determine the influence of Hindu epistemology on Ranganathan's Colon Classification. Since the paper attempted only to evaluate the impact of Hindu epistemology on Colon Classification, all but the epistemological schools of Hindu philosophy and the Idea Plane element of CC were excluded from the study.

A literature search was performed to determine the state of the problem in two literatures: Hindu epistemology and the Idea Plane. The literature search revealed three things: (1) that there was significant literature on each side of the problem, (2) that no bridges exist between the literatures, since no study had previously been done which treats the problem of this paper, and (3) that the problem of this paper was therefore open to research.

Using a comparative, non-empirical method, the study explored Hindu epistemology and the Idea Plane in separate chapters, establishing epitomes, or summaries of both. The epitomes were then compared and contrasted to determine the influence of the former upon the latter. It was observed that evidences of the influence of Hindu epistemology are present in some aspects of the Idea Plane and absent in others.

It remains for this paper to answer the problem stated at the beginning: How does Hindu epistemology influence Ranganathan's Colon Classification?

The epistemological element of CC, the Idea Plane, was the specific aspect of CC dealt with by this paper. On the basis of the evidence, it must be concluded that Hindu epistemology influences only specific components of the Idea Plane. It definitely does not influence its entirety.

The components of the Idea Plane influenced by Hindu epistemology are: (1) the theory behind the Idea Plane, and (2) the theory of work in the Idea Plane. The theory behind the Idea Plane maintains that all ideas originate in the mind. This is also the fundamental tenet of Hindu epistemology. The theory of work in the Idea Plane includes the five focal devices and the five fundamental categories. Both reflect Hindu concepts of matter, mind, time, and space.

The components not influenced by Hindu epistemology are the canons for work in the Idea Plane. They reflect no clearly Hindu concepts. They do reflect library terminology and classification concepts.

Exactly why Hindu epistemology influences the actual theory of work in the Idea Plane but has no impact upon its canons, or general guidelines, was not determined by this study and remains a problem for future research.

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